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REPORT ON THE FISHERIES INDUSTRY IN THE REPUBLIC OF KOREA[1/]

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Introduction

The great shortage of foodstuffs in Korea following the liberation of Korea from the Japanese, and the necessity of importing food and fertilizer to make up for this deficit, has placed particular importance on full utilization of the Korean fishing grounds. During the four years since liberation there has been an influx of more than 650,000 refugees from North Korea, and approximately 1½ million Korean repatriates from Japan, Manchuria, and China; added to this, the Korean birth rate is estimated to be as high or higher than any other important country in the world today. In the four postwar years the population has increased from an estimated 16 million to approximately 20.2 million.

Seafood is the largest source of protein in the Korean diet, and its importance is emphasized by a lack in other protein-bearing foods in Korea, such as animal meats and vegetable protein sources. Further, the fishing industry has during the past 40 years provided a livelihood for 450,000 to 500,000 Koreans engaged in fishing and the processing and marketing of the catch; in 1937 their efforts produced a total catch of 2,115,785 metric tons, an all-time high for the Korean fishing industry and an amount approximately equal to the annual production of the United States in recent years.

The Economic Cooperation Administration Mission to Korea plans to call for increasing marine production, not only as a source of food for the fast-growing Korean population, but as a potential source of foreign exchange with which other items necessary in the Korean economy may be paid for. The following chapters outline the story of the Korean fishing industry, its postwar problems, and its possibilities of expansion and improvement.

Characteristics of Korean Fishing Waters

The fishing waters in the immediate vicinity of Korea are among the best in the world. On the west coast of Korea, which faces China, are the shallow protected waters of the Yellow Sea; on the east coast warm and cold currents flowing both north and south bring with them quantities of whale, Alaska pollock, cuttlefish, and shrimp. In the straits of Japan, between the southern tip of Korea and the southern-most Japanese island of Kyushu, migratory fish are easily trapped. In the areas southwest of Chinhae, latitude 35°10', longitude 128°4', and the waters surrounding Ullung-do, latitude 37°3', longitude 130°50', and the area immediately to the South of Cheju-do, latitude 33°20', longitude 126°30', are found great quantities of mackerel, cod, anchovy, hairtail, and cuttlefish.

Principal areas

Area North of the Straits of Japan

The ocean floor shelves off rapidly. Depths of 2,000 meters are found within a few miles of the coast. The bottoms of these coastal waters are rocky and do not lend themselves to dragnetting operations. The deeper

outer waters are utilized principally for schoolfishing. Until the recent disappearance of the sardine from these waters, they were the principal source of the Korean sardine catch.

Japanese Straits and the Southern Coastal Waters

Waters of the Japanese Straits average 125 meters in depth, and shoal to an average of 80 meters in the southern coastal area. Here, too, the ocean floor is rocky and does not submit to dragnet operations, but the area is suitable for fishing for the oceanic types, abalone and sea urchins.

Yellow Sea

The ocean floor of the Yellow Sea is either sandy or muddy and is, therefore, ideal for dragnet fishing. It is a particularly good area for flounder and other fish found close to the ocean floor. The average depth of this area is about 75 meters.

Water temperatures

Temperature of the surface water surrounding Korea ranges from 0° - 14° C. in February, to 18° - 24° in July, according to records of the Fisheries Experiment Station in Pusan. Temperature ranges as recorded varied from north to south in the Japan Sea and from the coastal waters seaward into the Yellow Sea.

Salinity

The salinity of the water surrounding Korea varies from 31 to 34 parts per thousand, the lower salinity being found closest inshore. The salinity varies with the season also, being least in the fall months.

Principal kinds of fish

Among the more important species of fish caught in Korean waters are tongue, eel, cod, horse-mackerel, sweet porgy, angler, sand lance, red rock cod, shiner, sting ray, anchovy, sea robin, flounder, croaker, black porgy, carp, flathead, shad, big-eyed herring, mackerel, halfbeak, chub mackerel, mackerel pike, white bait, perch, porgy, hairtail, flying fish, herring, flatfish, halibut, shark, puffer, yellowtail, gurnard, mullet, sardine, tunny, pomfret, grey rock cod, Alaska pollock, surf smelt, red sting ray, saure, spearfish, sailfish, frigate mackerel and various fishes belonging to the Cottoid and Blennie family.

Development of the Korean Fishing Industry

Before the Japanese occupation

Prior to the Japanese occupation in 1905, fish were caught almost entirely for domestic consumption. Equipment consisted of hand nets, beach seines, set nets, traps, pole spears, tongs and rakes. Fishing operations

were generally confined to inshore areas since few, if any, seaworthy boats were available. The varieties caught in this early period were mainly croaker, Alaska pollock, eel, rock bass, shark, ray, octopus, crab, shrimp and some shellfish. The catch was preserved by drying, boiling and pickling. The bulk of the production was consumed locally and constituted an important part of the diet for those who lived close to the coast.

Development following the Japanese occupation

Soon after Korea was annexed by the Japanese, steps were taken to exploit fully the nearby fishing waters. By 1911, 13,709 craft were engaged in the fishing industry. In that year a total of 66,522 tons of fish were produced. At the same time, the Japanese initiated scientific investigation into the characteristics of Korean fishing grounds, with especial attention to influence of ocean current convergences. The combination of warm and cold currents has brought about an unusually favorable environment for the growth of many kinds of marine life.

In 1922, the Japanese established fisheries experimental stations in the main Korean seaports to increase fisheries production, develop shellfish culture and encourage the development of marine products, including their processing and storage. In 1928, inspection stations also were established at the principal ports. These stations enforce inspection regulations, inquire into and publicize proper methods of manufacturing and processing marine products, and of handling and processing the catch.

Fishing associations

In 1932, all Korean fishery associations, unions, societies and fishing guilds were amalgamated into the Korean Marine Association, later called the Korean Fisheries Corporation. Functions were distributed as follows among the separate agencies forming the corporation:

Fishery Guilds

These were essentially community fishing cooperatives for the procurement of fishing supplies and consignment marketing of the catch.

Unions of Fishery Guilds

These unions made loans to individual fishery guilds for conducting fishing operations, served as sales agents for the fishery guilds in operations beyond the capacity of individual guild, acquired fishing rights for member guilds, and investigated new fishing practices.

Marine Products Association (Dragnet Association)

This association supervised details of the actual fishing operations: allocation of ships to particular fishing grounds, regulation of the movement of ships to and from the fishing grounds, determination of the kinds of fish to be taken and individual ships' quotas, and regulation of the size and mesh of nets.

Korean Fisheries Corporation

This was to finance the Union of Fishery Guilds, and provided funds for guild operations, consignment purchase and sales in the large central markets, and for export transactions. It also provided members with information, particularly on price and trade regulations.

Immediate pre-war production

By 1937, the number of fishing craft had increased to 51,519, of which 13 percent were power-operated. In that year, marine production for the whole of Korea totalled 2,115,785 metric tons. It is particularly significant, however, that this tonnage included 1,200,000 metric tons of sardines. Since 1940, sardines have disappeared from Korean waters, a tragic circumstance in view of the deficit in Korean food supplies. The sardine had been an important source of protein.

Fishing during the war period

During the Sino-Japanese war, Japanese authorities diverted to their armed services in China and Japan much of the Korean fish catch. During the war with the United States, the Japanese pressed many fishing vessels into transport service, and the remaining craft deteriorated badly. After the surrender, it was found that Japan had used many of the motor-powered fishing craft to return the Japanese to their homeland. Many of these boats were kept in Japan. Of the fishing craft remaining in Korean waters after liberation, 50 percent were inoperable due to shortages of fuel, equipment, and parts.

Conditions following liberation

During the Japanese occupation of Korea, most of the fishing industry key positions had been held by Japanese nationals. With repatriation of the Japanese, control of the industry was devolved on inexperienced executives. Records were confused. Important documents were lost or destroyed during this transition period.

During the early period of American occupation, fish production in Southern Korea was at a low ebb. The principal reasons for this were:

1. The location of many fishing grounds were known only to the Japanese. Without navigating equipment and personnel trained in its use, these grounds were known only to the Japanese. Without navigating equipment and personnel trained in its use, these grounds could not be readily located by the Koreans. Furthermore, without larger motor-powered craft, the Koreans could not utilize the more remote waters to any appreciable extent.

2. Many boats left to the Koreans were without adequate fishing equipment and were unable to operate at anything approaching full capacity.

3. The Japanese had trained only their own nationals in technical phases of the fishing industry and there was a marked shortage of shipmaster navigators, engineers and similar technicians.

4. Needed repair parts were impossible to obtain. Numbers of boats were inoperable.

5. Many cold storage and ice-manufacturing plants, lacking repair parts and ammonia, shut down.

6. Canneries for fish processing also lacked repair parts, tin plate and experienced personnel. They too shut down.

Post-war rehabilitation of the Korean fishing industry

The immediate aim of American occupying forces in Korea south of the 38th parallel was to improve the area's food position. In the fishing industry, United States Army Military Government in Korea took the following first steps:

1. All Korean waters were opened to free fishing. The Japanese had farmed out to various individuals and groups the right to fish in specified areas. Lifting these restrictions was aimed at encouraging all fishermen to go out to the fishing grounds and to use every available piece of fishing equipment and fishing craft.

2. Fishing equipment, owned previously by the Japanese, was distributed among Korean operators for immediate use.

Following this, Military Government authorities undertook a program of importing rope, fuel oil, ammonia and other ice plant supplies, salt (for both food and preservative use), lumber and other necessities in short supply. The administrative organization which during the Japanese regime in Korea had controlled the fishing industry was established on essentially the same lines with the important difference that control was given to the Koreans for the first time.

Establishment of the Economic Cooperation Administration in Korea

With the advent of the Economic Cooperation Administration Mission to Korea, January 1, 1949, the emphasis of American aid was shifted from that of a straight relief program to a rehabilitation program. Continuing imports of nets, yarn for their local manufacture, abaca for rope manufacture, tin plate sheet for use in fish canning, lumber, and other items were necessary; at the same time, an effort to rehabilitate Korean boat-building facilities on a basis for continuing expansion of the industry was undertaken. The Economic Cooperation Administration Mission to Korea, through the Fisheries Branch of the Food and Agriculture Division, has also obtained a large supply of technical material from the U. S. Fish and Wildlife Service for use in demonstrating modern fishing methods and research techniques, and further plans for assistance in actual technical training of Bureau of Fisheries personnel through the Technical Training Division of

the Mission. In December 1949, the motor ship Washington, a trawler formerly used by the U. S. Fish and Wildlife Service, arrived in Korea. This 219-ton ship is the largest fishing vessel now in Korea; she will serve as a floating laboratory for the re-institution of deep sea fishing, which during the Japanese regime, had been monopolized by Japanese firms and fishermen.

Marine Production

Production, 1932 - 1948

Marine production in Southern Korea for the period 1932 - 1948 is shown in Table 1. Almost 90 percent of the products in any particular year consisted of fresh fish, the balance being made up of shellfish, various kinds of sea animals (mainly whales, shrimp, devilfish, crayfish and octopus) and edible seaweeds.

Except for the larger production in 1937, there were no great yearly variations from 1932 to 1938. In 1939, production began to fall off, reaching its lowest point in 1945. In 1946, there was an increase of about 100 percent. That level was maintained in 1947 and 1948.

Table 2 shows production of processed marine products for the years 1932 to 1948. The non-foodstuffs portion of this production consisted principally of fertilizer materials.

Production of processed materials also lagged from 1939 onward, reaching a low point in 1945. A comparison of the quantity of fish caught, as shown in Table 1, with the quantity processed, as shown in Table 2, shows that only about one-fifth of the fish caught are processed. It may be concluded that roughly four-fifths of the fish taken are consumed directly as fresh fish.

Production, 1948

Table 3 shows the total fish and marine production for 1948. It will be noted that although the sea animal catch nearly doubled over the 1947 catch, fresh fish and seaweed production decreased somewhat. Shellfish production increased about 20 percent over 1947. The overall decrease in tonnage from the 1947 catch was approximately 5 percent, partly as a result of fishing vessel losses due to old age, fires, storms, etc. No boat building of any consequence was done since the liberation until 1949. During the first 7 months of 1949, 298 new fishing vessels were built and this rate is expected to be accelerated.

Production Facilities

Fishing vessels

A majority of the Korean fishing vessels are sailing vessels of small tonnage. Out of 48,177 fishing boats reported for 1947, the majority are sailing vessels; only 2,177 were powered vessels, with 93 percent of these under twenty tons. Vessels of this size are generally limited to

inshore operations; there is, consequently, a large demonstrable need for larger vessels to exploit the rich offshore fishing grounds to the south and west of Korea, used to only a minor degree at the present time. The number, type and tonnage of the fishing boats for all Korea in 1937 and 1942, and for South Korea in 1945, 1946 and 1947, are shown in Table 4.

The return of additional fishing vessels, claimed by Korea and now in Japan, would be an appreciable addition to the fishing fleet. Some 16 vessels in this category have been returned, but numerous other vessels still remain in Japanese waters.

Harbors

There are fifty-two fishing ports along the coast of South Korea which provide fair to good facilities for the fishing fleet. The provinces of Kyong Sang Namdo and Cholla Namdo, two of the more important fishing provinces, have eleven and twelve ports, respectively; while the balance of the ports are distributed fairly evenly throughout the other provinces. Table 5 shows the port distribution by provinces.

Many of these ports have good mooring and docking facilities and have been improved with breakwaters, sea walls, wharves, and most of the facilities needed for loading and unloading. Very little maintenance and repair work has been done for a number of years, and as a result many of the ports are badly run down and are in need of major repairs. Some work has been done on the major ports and limited funds for eleven ports were provided in the 1948-1949 budget of the Bureau of Marine Transportation, but much additional rehabilitation is needed; however, lack of funds is retarding this rehabilitation.

Shipyards

Shipyards are located in most of the fishing ports. The yards vary from the simplest beaching facilities, or crude ways for hauling out the smaller boats for repairs, to very good installations with numbers of ways capable of handling larger vessels. Some larger yards, with steel fabricating equipment, well-equipped carpenter shops, machine shops, blacksmith shops and foundries, are capable of fabricating both steel and wooden vessels. From January to July 1949 there were 298 fishing vessels built. During the same period, 458 vessels were lost through storms, old age, fire, etc. Lack of capital and materials in particular has retarded fishing boat construction. There is also a lack of trained supervisory personnel. An increase in fishing vessel construction is expected during 1950 due to the ECA aid program for fisheries rehabilitation. Much of the boat yard equipment has deteriorated badly due to lack of work but with increased activity some of this equipment will be replaced and repaired.

Boat supplies

The fishing fleet has suffered seriously from a shortage of repair and operating supplies. Supplies on hand at the time of the occupation were located and distributed shortly thereafter. Requirement programs

were first drawn up early in 1946 and additional programs based on estimated needs have been submitted regularly since then. Deliveries, however, have been sufficient for only part of the needs. A shortage of boat lumber, engine parts, sail canvas, nets and manila rope have been the most serious handicaps to the fleet operations. Boat paints, particularly bottom paint, nails, wire rope, and other supplies have been needed in larger quantities. Domestic production of boat supplies has been very low, largely because of the lack of raw materials, but the current power shortage has also been a serious handicap. Some boat supplies have been available in the open market outside of official distribution channels, but usually at very high prices. Fuel and lubricating oils have been occasionally in short supply. Supply has been fairly good most of the time lately and present allocations are considered to be adequate.

Types of gear

Much of the fishing gear used in Korea is the same as that used in Japan, and Japanese names are still in use for many items. The most important types of gear are drag or trawl nets, in all of their various forms, purse seines, drift and set gill nets, beach seines, traps and weirs, long lines and hand lines. Diving, both with and without the use of a mechanical diving suit, is very common. Much of the gear is old and worn. An increased amount of gear of all kinds will be needed for planned expansions. Table 6 shows the different types and approximate amounts of gear in use.

Net and rope production

Production facilities for fishing nets, twine and rope are generally good. There are eighteen major fish net and twine-making factories, and, in addition, much netting is fabricated at home by hand or by the use of hand-operated machines. There is a shortage of moji ami (anchovy netting) machines and it is estimated that only 80 percent of the requirements for this type of netting can be produced domestically. With this exception, it is believed that net production capacity is sufficient to meet fisheries needs. Cotton yarn suitable for net and twine manufacture has been scarce, and, as a result, actual net and twine production was very low until the end of 1949 when large supplies were made available by ECA and it is considered that supplies will be adequate in 1950. Table 7 lists net factories and their capacity.

Rope production facilities are good, but the shortage of manila fiber and other good fibers has limited domestic rope production to a poor grade made of domestic hemp fiber, of very little value in fishery activities. Recent manila fiber deliveries have alleviated this shortage, at least temporarily and projected ECA aid supplies will be adequate for 1950 production. There are ten rope factories in South Korea with an estimated yearly production capacity of 3,610 metric tons, sufficient for the present estimated fisheries and industrial needs. See Table 8 for individual rope manufacturing capacity.

Marine products culture facilities

In the years before the war there were several installations for propagating fresh water and marine fish. One of these is a well built carp hatchery located near Chinhae in the south Kyongsang Province. It has cement rearing ponds, a large reservoir, adequate buildings for storage of gear and housing. Production in 1939 was 1,315,000 young fry and 1,570,000 eggs; in 1940 it was 961,800 fry and 1,845,000 eggs. The fry and eggs were sold to the farmers for further culture in their rice paddies. These fish were obtained from brood stock kept at the hatchery, and were raised to a size of 3 centimeters, then sold for 5 sen each. The eggs were distributed as soon as they had hardened sufficiently for transport. The hatchery reportedly produced 165,000 eggs in 1946 and 2,700,000 eggs in 1947. The hatchery is now operating with reduced force and is in a fair state of repair.

During pre-war cod seasons, an extensive cod egg-taking program was carried on near Pusan, south Kyongsang Province. The work was done on boats engaged in fishing. Eggs were removed from ripe fish and inseminated; then were water-hardened and released into the sea. It is not known how many of these eggs survived for the number taken.

In north Kyongsang Province near Pohang, a cod and herring hatchery was in operation. Sea water was pumped into troughs and the eggs hatched. The fry were liberated from 3 to 5 days after hatching. This work was started in 1942 when 3,800,000 fry were released. Prior to 1942, a cod egg-taking program similar to that at Pusan was carried on. The hatchery near Pohang is still in existence, but the pumps have been removed and the building is in poor condition.

The Experiment Station opened a carp hatchery at Chung Pyung in the Kyonggi Province in 1944, producing 14,800 fry and 30,000 eggs. The hatchery is smaller than that at Chinhae and the ponds are stone with mud bottoms. Dams and flumes are concrete. This hatchery has also been allowed to deteriorate, and although there are employees at the plant, there has been no production since the war. Much of the concrete has been broken from temperature changes and the rock work has fallen in. The reservoir is intact and has no brood stock in it.

Other hatcheries and egg-taking projects are not in operation.

There are many oyster beds on the south and west coasts of Korea. Their area is estimated at 55,000 chungbo (135,000 acres). Several methods were employed for catching sets, including planting bags of stones and branches of trees more or less evenly over mud flats in the inter-tidal zone. Both the Japanese oyster, ostrea gigas, and the native oyster, ostrea rivularis, were cultivated. The peak year of oyster production was 1938, when 4,169 tons were reported for all of Korea. It is not known what portion was from cultivated beds. Oyster cultivation has declined to the point where there are now only 317 chungbo under controlled cultivation. The remaining beds are now maintained naturally.

Laver culture is practiced extensively along the south and west coasts of Korea by an estimated 150,000 to 160,000 persons. This specialized marine product is collected on specially constructed mats or "fences" made of bamboo slats and is pounded into sheet form in the small coastal villages. Production and export of black laver from 1939 - 1948 are shown in Table 10.

Some work, mainly placing additional stones and rocks, has been done on the beds suitable for agar-agar seaweed growth. There are no reports on results obtained.

Processing Facilities

Statistics on consumption of fish in Korea are lacking, but it has been estimated that approximately half the fish produced by the Korean fishing industry is consumed fresh; the remainder are processed by various methods, by far the most important of which are salting and drying.

Salting and drying facilities

Facilities for salting and drying fish in Korea range from cottage operations, in which the fish are nailed to the fences or hung out on strings, to the large commercial operations where the salting tanks may be as large as 8 feet high and 10 feet in diameter.

Salt requirements for Korea are estimated at 300,000 metric tons per year. Government production in 1948 was 88,673 metric tons; in 1947, 65,323 metric tons. Salt imports in the years 1930 to 1944 averaged 126,827 metric tons annually. In 1948, salt imports were 115,011 metric tons. The estimated salt import requirements for the fiscal year 1950 (ending June 30, 1950) are estimated at 110,000 metric tons.

Fishery salt requirements for the fiscal year 1951 are estimated at 50,000 metric tons. Domestic production is uncertain, depending upon the weather. Salt allocations from the government are under the control of the Monopoly Bureau (which also governs the allocation of tobacco and ginseng) and the pressure of other demands has sometimes resulted in deliveries to the fishing industry short of requirements, with resultant spoilage of the catch. Recognition of the fisheries in salt requirements due to seasonal fluctuations in the catch has been made in the Economic Cooperation Administration Korean aid program for 1951, with leeway being left for expansion or contraction of import expenditures according to the Korean fishing industry needs.

Fish freezing and cold storage

There are 28 ice manufacturing and fish freezing plants in Korea, but they have been operating at a very low production rate as a result of shortages of electric power, anhydrous ammonia, piping and repair parts. Ice production data is given in Table 9.

Natural ice storage facilities have been developed only to a limited degree; to this degree they have been proven successful and on the suggestion of the Economic Cooperation Administration to the fishing industry these facilities are being expanded.

Canneries

A total of 44 canneries are in existence in Korea; 11 of these process fish exclusively and are under the jurisdiction of the Bureau of Fisheries. In addition to these 11 plants, others can both fish and vegetable products; 14 in this group are now operating on a limited scale and another 21 could be put into operation during the coming year with the procurement of such needed canning supplies as can lid making machines, can sealing machines, tin plate, and miscellaneous parts. In the past, lids were imported from Japan and present production is being carried on almost exclusively on the basis of this stock-piled material.

Canning species at present include mackerel, ligament, ear shell, top shell, sea eel, white clam, red clam, and crab. Sardines were canned extensively prior to their almost complete disappearance in 1941. Other available species suitable for canning and marketing are oysters, shrimp, anchovy, and tuna.

Canned seafood production for the years 1937 to 1948 inclusive was:

Year	Locality	Metric Tons
1937	All Korea	2,026
1938	" "	3,161
1939	" "	9,355
1940	" "	3,212
1941	" "	2,950
1942	" "	1,098
1943	" "	1,098
1944	" "	2,151
1945	South Korea	362
1946	" "	465
1947	" "	108
1948	" "	209

The names and locations of the principal canneries, together with the type and volume of pack are shown in Table 11.

Fish meal and oil rendering plants

Prior to the disappearance of the sardine in 1941, large amounts of fish oil and fish meal were produced. Rendering plants ranged from crude hand-operated presses--there were many in the small fishing villages of Korea's east coast--to large, modern continuous process plants. Since the failure of the sardine run, most of these plants have been dismantled.

At the present time, there is a very limited meal and oil production in a few plants; statistics, however, are lacking. A large chemical plant on the east coast, under construction at the time of the failure of the sardine run, has been practically inoperative since its completion as a result of the lack of raw materials. Figures on whale oil production are not available, but the take of the larger oil-bearing whales through coastal whaling is reportedly increasing. Shark oil production is increasing and the Fisheries Experimental Station is testing processes to manufacture oil from mackerel. Other fish oils are in short supply, and there is no immediate prospect for increasing productivity unless there is a significant increase in the whale catch, or the sardines reappear.

Vitamin oil production

Cod vitamin oil production is fairly large (one Pusan plant produced 34 barrels in 1949) but the product suffers from improper grading of the ingredients. In addition, there is no particular attempt to preserve fish livers at the time of the catch, and the usual procedure is to leave the fish whole after catching and wait until returning to shore several days later before removing the vitamin-rich livers. With shark and cod, however, there is some attempt made to remove the livers at the time of the catch and preserve them by cold storage aboard ship. Vitamin pills from more or less ungraded vitamin oils are being produced for local consumption. There has been a continuing interest by American importers in Korean fish liver oils and this product offers Korea an important source of foreign exchange.

Miscellaneous processes

Agar agar is one of the more important Korean marine products, and its production has increased each year since 1945. Agar agar factories are listed by province in Table 12. Production by province for the years 1935 to 1943 inclusive and for 1946, 1947, and 1948 is shown in Table 13. Immediately after the departure of the Japanese from Korea, Korean agar agar was purported to be poorly graded; however, consultants to the fishing industry feel that the current product is equal to the prewar product produced under Japanese supervision.

Other special products such as glue seaweed, laver jelly, pearl essence, alginic acid, and seaweed are also being produced.

Marketing

Domestic distribution

Most of the Korean catch is sold at auction through fishing guilds. Between them and the consumer are numerous middle men, wholesalers and retailers whose percentage fees, plus transportation costs, increase the retail fish price by some 60 percent over the price received by the fisherman.

Transportation, in general, determines the fresh fish market. Long distance hauling by rail, communities on the main line, and ports with main line connections, are fairly well served. Delivery, however, even by railroad, is slow, and the amount of fish that can be shipped is limited. Many ports and towns depend on boat, truck, or ox cart for deliveries of fresh fish and other fishery products. Distribution of fresh fish by these means is generally unsatisfactory, although suitable for salted, dried, and canned fish and other processed marine products. Processed marine products are available in practically every food store throughout Korea.

A fish market sanitation law, promulgated in 1948, requires reasonably sanitary handling of fishery products; enforcement, however, is lacking. The lack of running water, covered display cases and the shortage of ice make desirable sanitation difficult. A Government Marine Products Inspection Agency is active in setting up and checking the processing and packing standards on marine products for export.

Export Practices

Marine products account for a large portion of the foreign trade. In 1948, over 10 million dollars worth of marine products were exported and in 1949 these products are expected to account for about 9 million dollars worth of export. Up to September 1st, 1949, marine products accounted for 77.2 percent of all Korean exports, with a value of ₩ 6,585,187,457, of which ₩ 1,544,760,145 were government exports and the balance of ₩ 5,040,427,312 were private exports.

Dried cuttlefish, dried anchovy and shrimp, laver and agar agar are the most important of the various marine products exported.

Practically all laver is sold to Japan and the balance of the products to Hong Kong and China. Salt mackerel, codfish and canned marine products are items that may be exported in addition in the future.

Attempts are being made to increase export of cod liver oil, shark liver oil, glue seaweed, and to manufacture for export alginic acid and iodine made from seaweed. See Table No. 14 for 1948 exports.

Government and the Fishing Industry

The Korean fishing industry still operates under substantially the same system developed during the Japanese regime in Korea. The system of fishing licenses, fishing rights, the organization of the fishery into guilds, unions, and associations, with one central fishery group, was re-established and maintained except during the immediate postwar months--October, November and December 1945, and January 1946.

Government control of the fishing industry is on both a local and national level. On the local level there is a fishing guild in practically every fishing village. A chief or official head is elected by the fishermen themselves; the director, who acts as business manager

and handles local distribution, financing, and selling of the fish, is appointed by the provincial governor (the line of authority runs from the provincial governor directly to the national government in Seoul which appoints the provincial governors; they are not elected). Fishery unions organized on a provincial basis have their directors named by the Ministry of Commerce and Industry of the national government. The same Ministry controls the various specific fishery associations by appointment of the union business manager. The more important fishery associations include the Dragnet Fishery Association, the Diving Suit Fishery Association, the Mackerel Purse Seine Association, the Anchovy Association, the Kyong Sang Namdo Trap Net Fishery Association, Agar Agar Fishery Association, Glue Seaweed Association, and the Cannery Association.

Taxes and financing

Fisheries are currently taxed at the provincial level according to the type of gear and size of boat used, on a sliding-scale basis depending on the amount of the catch. The tax was increased during the past year, but is still comparatively low. The sliding-scale tax in accordance with the amount of the catch is theoretically just, but leads to non-reporting of the entire catch and consequent errors in statistical records of landings.

Funds for the National Bureau of Fisheries (see below) are appropriated on a budgetary basis and in most instances have been far below the amounts needed. The ECA Mission to Korea feels a plan of setting aside revenue from fisheries taxes for fisheries development purposes and administrative expenses should be considered.

National Bureau of Fisheries

A Korean Bureau of Fisheries was set up and organized under the Department of Agriculture in the South Korea Interim Government. After the Government of the Republic of Korea was inaugurated on August 15, 1948, the Bureau of Fisheries was placed under the jurisdiction of the Ministry of Commerce and Industry. The Bureau is organized into four sections:

Administration Section

Management of personnel, accounting, equipment, mail, operation of vested properties, statistics, supervision of fisheries communities and special corporations.

Fishing Section

Direction of fishing, conduct of fisheries, investigation of fishing grounds, allocation of materials and supplies, study of production of fishing equipment, management of boat construction, registration of fishing vessels, supervision of port construction.

Increasing Section

Direction of increasing fish, shellfish and seaweed production, supervision of fisheries protection, investigation of offshore fishing, bait and planktology.

Processing Section

Supervision of general processing, foreign trade, inspection stations, can production, ice manufacturing and storage plant construction, production of fish meal and fish oil.

Provincial fisheries sections

There is a fisheries section in each provincial government, with functions similar to the National Bureau.

Korean Fisheries Corporation

This corporation was officially designated as an agency of the government in November 1948 to distribute fisheries supplies and aid in the production, collection and sale of marine products. Practically all fisheries supplies made available through the United States Government financed supply programs have been distributed by this agency, through fisheries unions, associations and guilds. The corporation has also assisted in the collection of marine products for export, including laver, anchovies, agar agar, and glue seaweed. Fisheries financing has also been handled through this body. A central office is maintained in Seoul with branch offices and warehouses at Pusan, Inchon, Yosu and Mokpo.

There are no budgeted finances for the Korean Fisheries Corporation. Operations have been financed through bank loans and small percentage fees on the materials handled. Corporation officials are elected for a three-year term by the leaders of the unions and associations, subject to the approval of the Minister of Commerce and Industry.

Fisheries inspection stations

Fifteen inspection stations are located in the coastal areas, including the central inspection station at Seoul to inspect processed marine products, investigate and experiment with the manufacturing and packaging of marine products and check on sales and transportation of processed marine products.

Fishery experiment stations

There is one large main fisheries experiment station at Pusan and branch stations located at Koonsan, Mokpo, Pohang, Chuminjin, Inchon and Cheju-do. The stations have twelve research vessels, but funds have been limited for the past several years and the stations have not been able to undertake anything more than routine work. Properly financed and staffed, these stations should, with conservation and exploitation research, assist in keeping the Korean fisheries on a par with the fisheries of the world.

Technological training and education

The Pusan Fisheries College, on the coast several miles northeast of Pusan, the main advanced fisheries school in Korea, has possibilities of becoming a first-class fisheries college. There are 250 students at present, 100 housed in dormitories on the grounds and the others commuters from Pusan. College budget for the past few years has been small, and buildings are run down and in need of repairs. Much of the laboratory equipment has been stolen or destroyed and laboratories need to be re-equipped. With a carefully planned course, a strengthened staff, and some gradual expansion, the college should be able to meet the needs for this type of training. ECA is planning to bring several teacher-trainers from the United States to strengthen the teaching staff and conduct classes in modern teaching techniques.

There are thirteen other fisheries schools at the primary and middle (high) school level with a total of over 3,600 students. These schools teach fishing techniques, seamanship, boat repairs, simple boat building, use of gear, etc.

Funds have been provided for two short, special fisheries technical training programs, covering cannery procedures, ice plant operation, boat building, and other technical processes. Programs of this type are encouraged to continue and expand.

Government reporting

Government statistics on marine production in Korea suffer from two facts: the difficulty of gathering data from hundreds of isolated fishing villages and the tendency of fishermen to under-report their catch to avoid taxation, which is levied on the basis of their catch. It has been estimated that official marine production statistics in Korea are between 20 and 30 percent under-reported. The tables included in this report comprise practically the whole of government statistics presently available; the major omission is data on boats built and lost, for which reports have not been received since June 1949.

Summary

The importance of the fishing industry to the economy of Korea cannot be overlooked and must continue to receive full recognition by all persons planning to improve this economy.

Marine products are one of the most important of the available export items of Korea by which to obtain essential foreign exchange for the procurement of some of the badly needed items that must be imported.

The fishing industry of the present day is a complex business that requires large financial investments, which usually require large loans. Finances are required in the building and outfitting of vessels

with nets and supplies, to construct the proper shore facilities for unloading and marketing the catch in its fresh state or to preserve it by one of the many different methods for marketing at a later date either domestically or in a foreign market.

Fisheries is dependent on other economic factors within the country and must be coordinated in this regard. Some of the main economic factors affecting the fishing industry directly are:

1. Electric power supply. Power is needed to operate the ice making and refrigeration plants for preserving the fish catch; also, in rope, net and twine, and other factories which produce fishing supplies, as well as in the can factories, and fish canneries.

2. Shipyard facilities. These facilities are essential in the building and maintenance of the large fleet of vessels needed for all the various inshore and offshore fishing operations. This includes machine shops and foundries for the maintenance of the engines in the power vessels.

3. Port and harbor facilities. These facilities are needed for the protection and outfitting of the fleet as well as the unloading and handling of the catch.

4. Transportation facilities. The proper and economical distribution and marketing of fisheries products are dependent on sufficiently good, fairly rapid, transportation facilities. These include railroad, boat, road and highway transportation.

5. Sufficient preservation facilities and preservation supplies. This includes the tanks, jars, drying racks or sheds, canneries, refrigeration plants and all the actual preservative materials such as salt, sugar, etc.

6. Trained personnel. Personnel are needed to build, outfit, and properly man the fishing vessels; to operate the numerous required shore facilities such as supply factories, refrigeration plants, canneries, markets, salting and drying facilities, and grading and packing for export.

The fisheries supply problem continues to be the most pressing problem of the industry and should continue to receive great emphasis. Raw material imports are needed for supplies that can be produced through domestic facilities but in many instances it will be necessary, at least temporarily, to import the finished products. Supplies of several critical items have improved recently and future deliveries are carefully programmed to meet anticipated needs. Many fishing vessels have been destroyed or damaged and the repair and replacement of these vessels is extremely important if the catch is to be maintained and expanded. Additional larger sized power vessels of several different types are needed to increase the catch and reach the rich offshore or high seas fishing grounds which are readily available.

7. The ECA aid program is most necessary in order to rehabilitate the fishing industry. The 1950 and 1951 programs call for ECA imported fishing vessels, materials to build and repair fishing vessels locally, steel plate for making ice cans and tanks for boats, abaca for rope manufacturing, cotton twine for manufacturing nets and fishing lines, cotton for sail cloth, tin plate for cans, pipe and tubing for rehabilitating ice plants, ammonia and ammonia compressors for ice plants, wire rope for trawling operations, etc. In addition, ECA expects to bring technicians from the United States to teach modern methods in fish canning, quick freezing, ice manufacturing and cold storage, oyster culture, shipbuilding, and management. This assistance, coupled with the Korean efforts, should bring the Korean fishing industry up to its pre-war efficiency at the end of 1952.

TABLE 1 - PRODUCTION OF PRINCIPAL MARINE PRODUCTS, SOUTH KOREA, 1932 - 1948

YEAR	FRESH FISH		SHELLFISH		SEA WEEDS		SEA-ANIMAL 1/		TOTAL	
	QUANTITY M.T. 2/	VALUE 1000 WON	QUANTITY M.T. 2/	VALUE 1000 WON	QUANTITY M. T.	VALUE 1000 WON	QUANTITY M. T.	VALUE 1000 WON	QUANTITY M. T.	VALUE 1000 WON
1932	574,317	28,715.9	67,555	3,377.8	33,777	1,688.9	-	-	675,649	33,782.5
1933	427,005	21,777.3	50,235	2,562.0	25,117	1,281.0	23,770	2,214.0	526,127	27,744.2
1934	461,714	30,011.4	55,488	3,606.7	27,744	1,803.4	36,458	2,378.0	581,404	37,799.5
1935	719,755	30,949.5	22,879	1,418.5	71,145	2,276.6	42.334	3,607.6	856,113	38,252.2
1936	513,589	35,961.1	14,103	1,230.1	17,272	2,535.9	43,235	3,918.7	608,199	43,645.8
1937	537,819	33,598.9	15,834	1,342.1	28,877	2,221.3	54,522	3,946.3	637,052	41,108.6
1938	525,354	38,562.7	17,227	1,454.7	40,456	2,131.5	45,712	3,791.5	628,749	45,940.4
1939	499,056	50,999.2	10,303	1,568.2	41,002	4,852.6	49,183	6,540.8	599,544	63,960.8
1940	454,501	63,326.0	10,953	1,826.8	34,576	5,000.8	45,172	8,140.0	545,202	78,293.6
1941	363,670	63,045.5	14,603	2,476.8	33,128	5,098.5	51,502	10,792.5	462,903	81,413.4
1942	288,449	70,098.6	28,050	1,072.4	28,309	5,979.4	32,528	12,374.2	377,336	91,524.6
1943	281,597	76,820.3	13,595	3,220.7	33,175	8,033.2	44,948	15,624.7	373,915	103,698.0
1944	228,530	104,836.1	6,977	1,691.4	29,857	6,867.1	30,439	13,916.2	295,803	127,310.8
1945	149,858	193,380.0	9,865	12,671.0	23,232	8,015.0	19,148	41,120.2	202,103	255,186.2
1946	250,990	1,961,641.8	9,528	77,024.3	14,764	115,456.9	23,441	221,672.4	297,723	2,375,795.4
1947	264,281	6,511,409.0	5,336	141,714.0	7,683	440,585.0	24,652	656,204.0	301,952	7,749,912.0
1948	225,895	11,141,166.1	6,422	348,727.2	6,446	469,114.7	46,506	1,650,616.0	285,269	13,609,624.1

1/ PRINCIPALLY WHALES, OCTOPUS, SHRIMP, DEVILFISH, CRAYFISH.
2/ ASSUMED TO BE, FOR THE MOST PART, "IN THE ROUND," I.E. BEFORE CLEANING.
SOURCE: BUREAU OF FISHERIES MINISTRY OF COMMERCE AND INDUSTRY.

NOTE: OFFICIALLY 950 WON IS EQUIVALENT TO ONE DOLLAR--USUALLY FIGURED 1,000 WON TO THE DOLLAR.
M. T. = METRIC TONS

TABLE 2 - PROCESSED MARINE PRODUCTS, SOUTH KOREA, 1932 - 1948

YEAR	FOODSTUFFS 1/		NON-FOODSTUFFS 2/	
	QUANTITY	VALUE	QUANTITY	VALUE
	M. T.	WON	M. T.	WON
1932	35,833	10,013,600	15,357	2,503,400
1933	35,599	10,650,400	15,257	2,662,600
1934	58,077	12,333,600	24,890	3,083,400
1935	44,335	11,624,074	74,032	14,381,388
1936	53,867	17,502,527	88,890	19,212,990
1937	60,124	18,504,286	84,657	11,065,814
1938	61,601	22,578,377	91,891	9,708,673
1939	86,985	35,263,245	62,439	16,806,100
1940	72,517	49,372,572	64,483	20,451,119
1941	78,446	60,059,210	51,110	17,513,969
1942	76,363	72,431,873	17,805	7,755,948
1943	67,641	77,694,952	4,628	3,974,533
1944	43,580	80,045,327	4,103	3,567,634
1945	35,416	56,666,736	15,178	14,166,684
1946	46,885	769,822,050	11,721	135,850,950
1947	53,290	2,545,696,000	1,580	83,102,000
1948	59,134	4,279,773,664	3,356	154,777,261

1/ FOODSTUFFS REFER TO SALTED, DRIED, CANNED AND FROZEN FISH.
2/ NON-FOODSTUFFS REFER TO FISH PRODUCTS USED AS FERTILIZER, DRUGS, ETC.
SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY

NOTE: OFFICIALLY 950 WON ARE EQUIVALENT TO ONE DOLLAR--USUALLY FIGURED 1,000 WON TO THE DOLLAR.
M.T. = METRIC TONS

TABLE 3A - 1948 FISH LANDING, SOUTH KOREAN WATERS (BY MONTH AND SPECIES IN METRIC TONS)

SPECIES	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
ANCHOVY	-	-	6.300	69.375	151.401	602.706	1329.148	2305.034	2899.818	422.209	240.778	452.128
ANGLER	-	-	-	1.000	.385	.037	-	-	-	-	-	-
BANNJEE (SETIPIMA GILBERTI)..	-	-	-	25.476	13.104	27.500	-	-	-	-	-	-
BLANQUILLO	.790	-	3.563	2.500	7.323	1.562	1.200	-	.525	-	-	-
BONITO	7.000	-	-	-	-	-	-	-	-	-	-	-
CARP	.055	-	4.820	3.975	-	.210	.460	2.830	3.600	2.100	-	3.800
COD	1482.884	1060.580	620.834	716.805	574.721	13.566	4.000	5.253	2.000	144.982	647.554	4788.230
COD, RED ROCK	287.900	392.500	263.800	169.400	53.900	.675	9.230	18.551	12.700	3.102	22.585	94.031
COD, GREY ROCK	93.000	37.631	2.823	14.454	.300	.200	2.170	6.599	23.195	7.985	11.400	29.510
CORUNIA	882.946	701.349	740.446	3598.442	15629.280	6151.647	7241.363	3339.589	3154.759	1152.566	524.689	1373.941
CROAKER	8.010	9.414	9.564	50.197	392.667	438.627	266.635	971.105	292.150	191.429	58.495	8.484
EEL	-	-	-	-	-	-	-	3.875	20.780	6.612	8.531	2.091
EEL, CONGER	-	-	.150	-	-	-	-	-	1.500	.318	.380	-
EEL, MARINE	960.055	179.799	98.518	86.563	112.899	187.023	143.940	356.300	161.026	293.996	83.445	227.973
FISH LEAD	.980	2.140	.500	22.768	123.989	14.339	204.386	88.137	32.104	20.968	5.417	100.533
FLAT FISH	-	-	-	323.623	312.955	150.685	1.455	4.882	.470	.200	-	-
FLOUNDER	668.931	372.750	412.793	321.593	382.093	481.377	153.181	146.100	69.469	3.210	138.159	739.497
GIBEL	-	-	12.767	3.900	-	.370	.680	1.860	2.100	3.200	-	1.200
GURNARD	.183	.160	.300	.158	.472	18.800	10.200	11.640	-	-	-	-
HAIR TAIL	139.180	68.250	93.514	379.215	3293.817	9928.834	3651.418	2656.605	3878.310	1603.069	1541.757	2245.470
HERRING	21.690	8.230	20.930	41.868	.277	-	-	-	.680	10.840	30.310	-
HERRING, BIG EYED	-	-	-	-	2.011	38.450	3.227	-	8.900	-	-	-
HETTE-KEY	3.540	4.670	8.420	11.970	-	.150	-	-	4.200	-	-	6.160
JACK	3.453	-	2.535	5.990	12.689	-	-	-	.500	.320	6.935	11.180
KANG DA LEE(COLLICHTHEP FLAGILIS)	-	-	-	-	-	4089.430	115.495	2.042	-	2.000	.150	-
KUE-TO-JA-JI (ENEDRIAS NEBULOSUS).	-	-	-	-	3.000	2.900	-	-	-	-	-	-
LIZARD FISH MAE-TAE-MI (SAURIDA ARBYROPHANES)	.386	.325	1.013	-	.800	1.000	-	-	-	-	-	-
MACKEREL	56.271	20.347	49.800	119.512	531.601	2828.041	3780.089	2661.730	2111.319	1843.490	320.647	110.605
MACKEREL, ATKA I-MIN-SOO(PLEORO-GRAMMUS AZOMUS)	36.390	604.460	157.410	101.590	275.488	33.125	-	-	13.960	135.797	81.299	6.947
MACKEREL, CHUB	97.604	23.322	25.608	95.534	67.378	17.961	152.912	90.545	74.036	204.530	159.051	43.464
MACKEREL, HORSE	82.482	43.500	43.600	146.538	34.535	230.760	899.366	1081.390	369.576	219.884	408.542	73.779
MANG-CHANG-UO	-	-	-	-	-	2.249	7.060	.356	-	-	-	-
MULLET	189.577	99.634	69.215	39.550	152.082	228.804	108.295	155.281	154.751	62.850	51.060	260.229
NO-RE-MI	1.000	.500	5.644	5.413	.168	-	-	1.125	-	.375	-	-
OONG-UO	-	-	-	-	13.125	5.260	3.711	-	-	-	-	-
PERCH	31.849	17.015	2.167	12.994	99.075	453.131	153.789	67.205	34.361	44.189	32.585	94.031
PIKE, SAURY	23.000	22.000	25.409	25.409	23.987	6.384	52.300	-	-	-	3.110	1.165
POLLOCK, ALASKA	2899.234	968.810	768.390	283.392	159.418	23.550	15.100	6.877	20.504	901.593	2875.182	2770.626
POMFRET	4.036	7.880	11.192	27.655	41.872	89.517	188.494	26.604	77.427	19.069	6.637	79.497
PORGY	107.879	108.945	90.953	79.584	125.687	209.628	137.573	64.152	66.732	72.648	71.118	108.330
PORGY, BLACK	252.228	183.042	127.643	236.700	24.700	26.500	21.749	24.123	41.100	56.051	17.635	374.114
PUFFER	88.000	137.100	83.272	38.286	1029.609	48.271	74.253	4.709	.400	7.097	2.907	8.190
RAY	838.341	1157.902	1428.464	625.693	1539.529	951.194	85.415	64.249	42.301	60.205	309.959	1708.500
SAND LANCE	387.320	.500	-	3.500	702.407	215.061	23.724	-	7.000	-	-	3.700
SEA ROBIN	-	-	-	.394	24.116	33.300	37.660	25.600	2.500	-	-	-
SHAD	48.830	57.900	56.326	23.977	86.231	67.202	50.242	59.207	146.686	121.315	114.132	106.801
SHARK	1839.864	3863.437	3318.185	1277.003	765.258	929.953	390.035	406.885	348.529	301.842	812.684	342.476
SHINER	-	-	-	-	-	-	-	-	10.000	-	-	-
SHRIMP	-	-	.380	16.000	.150	45.000	-	-	-	-	-	-
SNAKE FISH	-	-	1.670	1.500	-	-	-	-	-	-	-	-
TONGUE FISH	.180	1.770	8.506	228.911	1466.199	605.778	269.909	54.066	39.167	30.631	4.642	127.167
TROUT	1.000	1.000	-	4.842	-	-	-	-	-	-	.500	3.000
TURBOT	314.100	1721.966	859.393	692.415	197.440	69.838	152.497	26.607	64.452	179.613	347.047	417.637
TUNA	-	-	-	-	-	-	-	-	35.514	157.218	22.512	-
VOO-LERK(BRANCHIMYSTOX CRECONOIDES)	-	11.880	3.970	21.432	41.989	28.125	-	-	-	-	-	2.205
WHITE BAIT	-	196.000	-	42.000	420.608	-	-	-	-	-	-	.890
YELLOW TAIL	290.398	138.742	49.529	34.832	101.232	218.210	182.088	37.170	32.153	165.911	376.294	273.380
MISCELLANEOUS	3358.520	2660.559	2438.496	2214.873	6807.265	6235.173	6728.246	1205.848	1923.397	2207.562	1426.172	2523.574
TOTAL												

TABLE 38 - 1948 SHELL FISH CATCH, SOUTH KOREAN WATERS (BY MONTH AND SPECIES IN METRIC TONS)

SPECIES	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
ABALONE	19.313	13.699	58.608	22.414	28.224	116.624	246.533	60.175	23.396	14.187	11.878	61.596
ANADRA GRANSA	5.125	6.000	6.300	12.075	35.675	31.120	21.550	3.440	4.900	2.081	4.000	101.300
CLAM	.900	-	5.630	356.283	45.770	114.475	194.569	25.878	12.833	17.200	209.000	1.000
CLAM, HEART	2.969	339.713	112.000	38.060	5.000	8.000	103.750	-	-	-	-	146.712
COCKLE	.110	-	38.300	18.750	3.750	5.000	-	-	-	-	-	-
MASTRA SACHALINENSIS	1.365	119.305	94.875	-	-	-	-	-	-	-	-	-
MUSSEL, SEA	-	-	-	-	-	12.700	143.940	28.800	25.275	14.388	18.300	39.600
MUSSEL, STIEGEL	-	-	-	-	5.500	4.250	-	-	-	.112	.105	.090
OYSTER	26.472	18.650	48.005	5.474	.587	14.861	14.810	6.420	18.801	64.637	58.719	121.145
POPHIA PHILLIPPINANUM	43.200	1.400	58.916	2.445	81.748	43.012	962.240	21.950	349.562	226.537	77.725	5.520
SCALLOP	-	-	-	-	17.000	-	118.224	-	-	-	-	-
SOLEN	-	-	-	-	8.800	-	-	-	-	-	-	-
TOP SHELL	9.000	-	11.205	5.369	1.300	36.073	9.420	23.773	15.760	37.599	34.880	66.329
WORM SHELL	-	18.420	61.000	1.269	-	-	-	-	-	-	-	-
MISCELLANEOUS	13.782	2.367	36.638	47.100	37.100	27.076	63.739	58.490	20.200	10.820	19.434	112.700
TOTAL												

TABLE 30 - 1948 SEAWEED PRODUCTION, SOUTH KOREA (MONTH AND SPECIES IN METRIC TONS)

SPECIES	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
CAMINAROIDES	-	-	-	3,200	1,600	59,385	53,512	107,237	15,408	3,500	-	-
CELARIUM	,060	-	-	-	-	3,240	5,075	11,850	-	-	-	-
CHONDRUS AULLATUS	-	-	-	-	-	1,340	1,780	8,200	1,884	-	-	-
CODIUM	-	-	-	-	-	-	3,000	,375	-	-	-	3,000
DULSE	,579	4,290	43,798	372,912	2285,373	382,800	298,818	90,325	15,695	28,307	1,400	,400
FUSIFORM	-	41,277	-	-	-	26,480	-	,060	-	1,800	-	-
GLUE WEED	-	-	-	-	-	1,800	-	9,240	-	-	-	48,000
GULF WEED	6,600	22,805	6,900	9,833	-	1,800	14,200	-	-	-	2,400	4,153
JAPANESE JELLY WEED	40,500	2,003	-	,375	60,913	99,285	113,335	434,477	264,097	42,860	-	82,700
LAVER, GREEN	,444	,905	18,300	96,770	-	-	-	-	-	-	-	,900
LAVER, NATURAL	13,625	30,072	29,886	-	-	-	-	-	-	-	13,400	4,964
LAVER, ROCK	1,600	17,671	26,163	57,081	1,038	-	-	-	-	-	-	-
TANGLE	-	-	-	-	2,355	-	-	-	-	-	-	-
TENAX	-	-	-	-	18,050	23,556	59,430	65,555	14,558	22,320	-	-
MISCELLANEOUS	-	-	25,280	20,529	14,000	86,097	59,161	44,025	19,430	-	12,500	-
TOTAL												

TABLE 3D - 1948 MARINE ANIMAL LANDING, SOUTH KOREA (BY MONTH AND SPECIES IN METRIC TONS)

SPECIES	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
ACALEPHE	-	-	-	1.000	-	-	2.000	-	-	-	-	-
CRAB	52.185	92.440	70.120	106.644	182.063	24.797	19.294	17.761	7.448	35.232	18.777	21.405
CRAWFISH	3.375	10.875	8.947	38.738	9.409	11.367	41.756	2.000	1.000	46.500	55.004	31.229
JELLY FISH	-	-	-	-	-	1.000	15.000	15.000	15.000	85.000	-	-
LOBSTER, SPINY	1020.938	157.479	413.686	149.019	1120.759	6277.929	3248.079	5598.998	1500.136	1941.359	843.797	432.857
OCTOPUS	220.580	92.761	121.735	70.173	34.336	25.605	67.699	34.152	113.538	66.094	39.281	301.950
PULPE	49.395	9.487	112.703	179.903	129.463	4.080	5.677	4.400	1.000	7.100	6.800	-
SEA SLUG	19.137	26.440	21.805	22.644	13.304	7.322	4.675	32.865	12.500	19.750	12.300	169.817
SEA URCHIN	-	.500	-	-	-	-	-	-	-	-	6.100	22.400
SQUID	442.722	339.361	146.450	50.300	161.117	31.840	2.100	219.200	1947.431	1222.082	452.630	946.595
SQUID, SLEEVE	-	-	-	4.000	-	9.474	182.100	1191.855	570.428	39.096	9.286	3.377
WHALE	-	-	4.500	33.391	1836.375	9.000	63.962	239.000	59.100	16.029	24.828	21.420
MISCELLANEOUS	3.430	7.240	19.965	17.825	16.350	23.200	7.775	6.678	14.312	51.418	153.489	68.355
TOTAL												

TABLE 3E - RECAPITULATION OF TOTAL FISH AND MARINE PRODUCTION, SOUTH KOREA, 1948 (BY MONTH IN METRIC TONS)

PRODUCT	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
FISH CATCH	15509.086	14886.009	11928.812	12248.901	35799.232	35752.103	26652.695	15984.131	16184.651	10660.976	10764.300	19524.535
SHELLFISH CATCH	122.236	519.554	531.477	509.239	270.454	413.191	1878.775	228.926	470.727	387.561	434.041	655.992
SEAWEED PRODUCTION	63.408	119.023	150.327	560.700	2383.329	985.783	708.311	771.344	331.070	98.787	29.700	244.117
MARINE ANIMAL CATCH	1811.762	736.583	919.911	673.637	3503.176	6425.614	3660.117	7361.909	4241.893	3529.660	1622.292	2019.405
TOTAL	17506.492	16261.169	13530.527	13992.477	51956.191	43576.691	32899.898	24346.310	21228.341	14676.984	12850.333	22444.049

TABLE 4 - NUMBER, TYPE AND TONNAGE OF FISHING BOATS

TYPE	ALL KOREA 1937		ALL KOREA 1942		SOUTH KOREA 1945		SOUTH KOREA 1946		SOUTH KOREA 1947	
	NUMBER	TONNAGE	NUMBER	TONNAGE	NUMBER	TONNAGE	NUMBER	TONNAGE	NUMBER	TONNAGE
FISHING, POWERED	2,548	36,306	3,277	45,180	2,311	32,354	2,003	18,626	2,177	23,054
FISHING, SAIL	48,971	146,943	61,879	185,637	40,015	120,045	43,967	131,901	42,991	129,027
FISH-CARRYING	4,370	61,180	4,132	57,848	1,066	14,924	2,867	16,578	3,009	17,790
TOTAL	55,889	244,429	69,288	288,665	43,392	167,323	48,837	167,105	48,177	169,871

TYPE AND TONNAGE OF POWER-DRIVEN BOATS IN SOUTH KOREA, 1947

	1/5-TON	5/10-TON	10/20-TON	20/50-TON	50/60-TON	60/75-TON	75/80-TON	80/100-TON	100-TON
WHALER	-	2	10	4	-	1	-	-	-
SEMI-TRAWLER	-	3	165	43	2	4	1	-	1
PURSE SEINE	-	1	30	1	-	-	-	-	-
DIVING	114	-	-	-	-	-	-	-	-
GILL NET	-	25	132	-	-	-	-	-	-
FISH-CARRIER	-	108	185	73	5	-	-	-	-
OTHERS	375	558	412	21	4	1	-	-	-
TOTAL	489	697	934	142	11	6	1	-	1

NOTE: ALL BOATS ARE WOOD CONSTRUCTION.
SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE & INDUSTRY.

TABLE 5 - FISHING PORTS OR HARBORS

PROVINCE	FIRST CLASS No. 1 PORT	SECOND CLASS No. 2 PORT	THIRD CLASS No. 3 PORT	TOTAL
KANGWON-DO	-	2	4	6
CHUNGCHON-NAMDO	-	-	5	5
KYONGSANG-NAMDO	1	5	5	11
KYONGSANG-PUKTO	-	4	1	5
CHOLLA NAMDO	1	2	9	12
CHOLLA PUKTO	1	-	3	4
CHOJU-DO	-	3	1	4
KYUNGGI-DO	1	1	3	5
TOTAL	4	17	31	52

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY.

TABLE 6 - TYPES OF GEAR, WEIRS AND OTHER FISHING EQUIPMENT (1949 BY SETS)

TYPE	SETS	TYPE	SETS
LARGE SET NET	3	BOW SWING NET	40
LARGE STOW NET	96	RAISING HAUL NET	63
SQUARE NET	90	TUCK STONE NET	328
RAISING NET	29	GILL NET	1,624
SMALL SET NET	218	DRIFT NET	1,178
TRAP NET	220	DEFENSIVE SQUARE NET	22
SQUARE SET NET	190	SCOOP NET	699
BAULK SET NET	650	POT SET NET	664
PILLAR SET NET	185	DIP NET	170
SHORE DRAG NET	625	ROW NET	220
SHIP DRAG NET	195	SINGLE LINE	4,758
GOURD SET NET	40	WEIRS	396
ANCHOR GILL NET	25	SHARK DEEP SEA LINE	47
TRIANGULAR SMALL SET NET	936	DEEP SEA LINE	8,039
ANCHOVY DRAG NET	210	SHARK DRIFT NET	37
SAIL TRAWLER	484	TWO BOAT TRAWL GEAR	43
SWING NET	3,095	SINGLE BOAT TRAWL GEAR	121
HAUL NET	1,921	MACKEREL PURSE SEINE	22
DOUBLE SWING NET	354	WHALING BOAT GEAR	18
DREDGING NET	297	DIVERS, MECHANICAL GEAR	178
SPREAD NET	145	FISHER WOMEN GEAR	20,281
HAND CASTING NET	145	OCTOPUS TRAP	890
SHELL FISHING GEAR	3,918	MISCELLANEOUS	856
LAVER FISHING GEAR	2,965		

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY.

TABLE 7 - PRODUCTION CAPACITY OF FISHING NET FACTORIES AND TYPES OF NETS PRODUCED
(FACTORIES, TYPES AND QUANTITIES OF NETS PRODUCED MONTHLY: CAPACITY 390.1 METRIC TONS)

FACTORY	LOCATION	TWIST	VARIOUS	ANCHOVY	TOTAL METRIC TONS
CHOSUN OUMANG CO.	TAEGU	37.4	7.1	-	44.5
TETONG TWIST CO.	PUSAN	43.3	25.5	-	68.8
CHOSUN OUMANG CO.	PUSAN	18.6	49.1	5.2	72.9
CHOSUN ZEMANG CO.	TONG YOUNG	11.2	7.4	-	18.6
CHOSUN HUNGUP CO.	PUSAN	18.2	43.0	-	61.2
NAM-SUN TWIST CO.	KONGJU	16.4	4.1	-	20.5
TONG YOUNG NETTING CO.	TONG YOUNG	6.7	9.8	-	16.5
TONG YOUNG TWIST CO.	" "	10.4	0.4	-	10.8
SAN-CHON-PO NETTING CO.	SAN-CHON-PO	7.4	3.7	-	11.1
MOKPO TWIST CO.	MOKPO	7.4	-	-	7.4
RYO-SU TWIST CO.	RYO-SU	5.2	1.5	-	6.7
CHOSUN ANCHOVY CO.	PUSAN	-	-	5.6	5.6
SEOUL NETTING CO.	SEOUL	1.8	18.8	-	20.6
TE-HAN NETTING CO.	"	8.2	5.6	-	13.8
TONG-HE NETTING CO.	POHANG	2.4	-	-	2.4
TONG-YANG TWIST CO.	INCHON	2.9	-	-	2.9
TE-HAN CO.	KOONSAN	2.2	-	-	2.2
CHON-PUK NETTING CO.	CHUNJOO	2.2	1.4	-	3.6
TOTAL		201.9	179.4	10.8	392.1

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY.

TABLE 8 - ROPE FACTORIES

NAME OF FACTORY	EQUIPMENT				YEARLY PRODUCTION METRIC TONS	LOCATION
	BREAKER	SPINNER	CROSSER	TWINE MACHINE		
CHOSUN ROPE CO.	6	65	15	8	900	PUSAN
CHOSUN JEMA ROPE CO. ..	14	30	7	-	500	CHOONGJOO
PUSAN ROPE CO.	7	58	3	1	450	PUSAN
CHOHUNG ROPE CO.	7	14	4	1	320	"
SUNMA ROPE CO.	2	26	2	-	150	"
KUMKANG ROPE CO.	3	20	2	-	130	KUPO
KUMYONG ROPE CO.	2	28	3	-	150	"
OOK ROPE CO.	3	23	2	-	130	PUSAN
DE DONG ROPE CO.	2	20	2	1	130	"
PUSAN SUNGU CO.	7	41	12	-	250	"
TOTAL	53	325	52	11	3,610	

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY

TABLE 9 - ICE PLANTS

NAME	LOCATION	CAPACITY PER DAY TONS
POHANG FISHERIES UNION	POHANG, KYONGSANG PUKTO	10
ODA ICE PLANT	YONG PORI YONG IL GUN	20
TAEGU ICEMAKING CO.	TAEGU, KYONGSANG PUKTO	23
KYONGSANG NAMDO		
PUSAN FISHERIES CO.	PUSAN	120
CHOSUN RETAIL STORAGE CO.	"	35
CHOSUN 2D DIV. DRAGNET MARINE ASSN.	"	15
PUSAN ICEMAKING AND COLD STORAGE CO.	"	120
MASAN DEVELOPMENT CO.	MASAN	10
SAMCHUN PO FISHING GUILD	SAMCHUN PO	15
TONG YONG ICEMAKING & C.S. CO.	TONG YONG	10
CHOLLA NAMDO		
JUAN NAM IN CO.	YOSU	15
KUMUNDO PLANT, FISHERIES UNION	YOSU GUN	10
MOKPO ICE AND COLD STORAGE CO.	MOKPO	20
KWANG ICEMAKING CO.	KWANGJU	5
NARADO COLD STORAGE (HAYASHIKANE CO.)	NARADO	10
CHEJU DO		
CHEJU FISHING CO., 1ST ICE PLANT	ONG PORI	10
CHOLLA PUKTO		
KUNSAN BRANCH (HAYASHIKANE CO.)	KUNSAN	30
SEOUL CITY		
CHOSUN ICEMAKING CO., CENTRAL PLANT.	HANGYANGTONG (50 ICE & 50 STORAGE)	100
CHOSUN ICEMAKING CO., YONGSAN PLANT		70
CENTRAL DISTRIB. CO., NAM MIN ICEMAKING & COLD STORAGE	CHANG ST.	20
CENTRAL MARKET	YUIJU TONG ST. (COLD STORAGE)	50
SEOUL WAREHOUSE & FINANCE CO.	NAM DAI MOON (USED BY AMIK)	
KYONGGI DO		
YOAKE ICEMAKING PLANT	KAESUNG	2
SUWON ICEMAKING PLANT	SUWON	7
HAYASHIKANE CO.	INCHON	50
ICEMAKING PLANT, FISHERIES UNION	CHANG HANG	10
CHUKSAN INDUSTRY CO.	RONSAN	7.5
TAEJON PRODUCING CO.	TAEJON	5
TOTAL		799.5

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE & INDUSTRY.

TABLE 10 - PRODUCTION AND EXPORTATION OF BLACK LAVER (1939 - 1948)

YEAR	PRODUCTION BUNDLES	EXPORT BUNDLES	EXPORT PERCENTAGE
1939	6,801,258	3,547,741	52
1940	7,612,594	3,182,633	41
1941	9,661,730	6,206,716	65
1942	11,409,456	7,162,000	62
1943	9,027,679	7,000,000	77
1944	9,530,061	7,000,000	73
1945	6,755,807	0	0
1946	2,274,878	1,145,717	50
1947	5,776,477	5,100,000	88
1948	4,761,793	3,741,668	79

NOTE: 5,320 BUNDLES = 1 METRIC TON
SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE & INDUSTRY.

TABLE 11 - ESTIMATED CANNED GOODS PRODUCTION AND EXPORTED QUANTITIES IN 1949 (KIND OF CANNED GOODS AND PACKING SEASON)

NAME AND LOCATION OF FACTORY	MACKEREL JUNE-OCT	YELLOW TAIL JUN-OCT	SKIPPER APR-JUL	CRAB DEC-FEB	BONITO JUN-OCT	ANCHOVY JUL-OCT	EAR-SHELL ALL YEAR	WHITE CLAM JUN-OCT	OYSTER SEPT-APRIL	LIGAMENT ALL YR.	TOP SHELL ALL YR.	TOTAL
CHOLLA NAMDO												
UEDA CANNERY FACTORY MOKPO	4,000 (3,700)						1,500 (1,000)			1,500 (1,000)		7,000 (5,700)
HUK SAN CANNERY FACTORY MUAN GUN	1,500 (1,000)						1,500 (1,000)			500 (340)	500 (340)	4,000 (2,680)
HEUNG A CANNERY CO. YOSU	4,500 (3,000)	1,000 (670)					500 (340)		2,500 (1,670)	500 (340)	500 (340)	9,500 (6,360)
OHATA CANNERY MIRAN	1,000 (670)											1,000 (670)
CHEJU DO												
ISHIHARA CANNERY CHEJU	1,500 (1,000)						1,500 (1,000)				500 (340)	3,500 (2,340)
KANG SUNG IK CANNERY CHEJU	3,000 (2,000)						2,000 (1,400)				1,500 (1,000)	6,500 (4,400)
SUNG SANG CANNERY CHEJU	1,500 (1,000)						1,500 (1,000)				500 (340)	3,500 (2,340)
KYONGSANG NAMDO												
UEDA CANNERY FACTORY PUSAN	18,000 (12,000)					500 (340)				500 (340)		19,000 (12,680)
HATSUDA CANNERY FACTORY PUSAN	7,000 (4,700)					500 (340)				500 (340)		8,000 (5,380)
PUSAN ICE-MAKING FACTORY CANNERY, PUSAN	7,000 (4,700)					500 (340)				500 (340)		8,000 (5,380)
KANNO CANNERY FACTORY TONGYANG	12,000 (8,000)					1,000 (670)	500 (340)	2,000 (1,400)		500 (340)	1,000 (670)	17,000 (11,420)
URSHAMA CANNERY PUSAN	5,000 (3,400)	1,000 (670)	1,000 (670)		500 (340)		500 (340)					8,000 (5,420)
KYONGSANG PUKTO												
YUNGILL MAN FISHERY CO. CANNERY, CHUKSAN	5,000 (3,400)	3,000 (2,000)	1,500 (1,000)	1,000 (670)	1,000 (670)		500 (340)					12,000 (8,080)
NAKAGAWA CANNERY CHUKSAN	3,000 (2,000)	2,500 (1,660)	1,500 (1,000)	500 (340)	500 (340)		500 (340)					8,500 (5,680)
DATSUNO CANNERY KAMPO	5,000 (3,400)	1,000 (670)	1,000 (670)		500 (340)		500 (340)					8,000 (5,420)
CHOSUN FISHERY EXPORTING CO. KURYONPO, KYONGSANG PUKTO; HUPO, KANGWON DO (2 FACTORIES)	14,000 (9,400)	3,500 (2,340)	2,000 (1,400)	2,000 (1,400)			1,000 (670)					22,500 (15,210)
KANGWON DO												
NAKANISHI CANNERY	1,000 (670)	500 (340)	500 (340)				2,000 (1,400)					4,000 (2,750)
MARUHIRA CANNERY CHUMUNJIN	10,000 (6,700)		1,500 (1,000)									11,500 (7,700)
YAMANAKA CANNERY SAMCHUK	1,000 (670)	500 (340)	500 (340)				2,000 (1,400)					4,000 (2,750)
MATSUOKA CANNERY SAMCHUK	1,000 (670)	500 (340)	500 (340)				2,000 (1,400)					4,000 (2,750)
TOTAL	106,000 (72,080)	13,500 (9,030)	10,000 (6,760)	3,500 (2,410)	2,500 (1,690)	2,500 (1,690)	18,000 (12,310)	2,000 (1,400)	2,500 (1,670)	4,500 (3,040)	4,500 (3,030)	169,500 (115,110)
METRIC TONS	2,035 (1,384)	259 (173)	192 (130)	67 (46)	48 (32)	48 (32)	346 (240)	38 (27)	48 (32)	86 (58)	86 (58)	3,254 (2,210)

NOTE: FIGURES REPRESENT CASES UNLESS OTHERWISE DESIGNATED.
ONE CASE CONTAINS 32 CANS OR 48 CANS (CRAB CONTAINS 96 CANS). THE NET WEIGHT OF ONE CASE IS 19.2 KG. (M.).
TOP FIGURES EACH LINE ARE PRODUCTION QUANTITIES, FIGURES IN PARENTHESIS ARE EXPORTABLE QUANTITIES.

TABLE 12 - AGAR AGAR FACTORIES, BY PROVINCE, FOR THE YEARS 1940 - 1947

PROVINCE	1940	1941	1942	1943	1944	1945	1946	1947	1948
KYONGSANG NAMDO	9	16	18	19	17	17	16	16	16
KYONGSANG PUKTO	5	6	6	5	5	5	5	8	8
CHOLLA NAMDO	2	3	3	3	3	3	3	3	3
CHOLLA PUKTO	0	1	1	1	1	1	0	0	0
TOTAL	16	26	28	28	26	26	24	27	27

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY.

TABLE 13 - AGAR AGAR PRODUCTION, BY PROVINCE, FOR THE YEARS 1935-43, 1946-48

PROVINCE	1935	1936	1937	1938	1939	1940	1941	1942	1943	1946	1947	1948
KYONGSANG NAMDO	-	-	7	9	21	11	31	88	117	-	161	190
KYONGSANG PUKTO	6	5	-	7	4	10	76	4	14	-	25	40
CHOLLA NAMDO	12	6	15	36	37	46	56	62	46	-	24	25
TOTAL	18	11	22	52	62	67	163	154	177	-	210	255

SOURCE: BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY.

TABLE 14 - MARINE PRODUCTS EXPORTS - 1948

ITEM	QUANTITY	VALUE
GOVERNMENT EXPORTS		
ANCHOVIES	993 M.T.	$ 447,000
LAVER	5,079,446 BDLS.	4,331,000
OTHER SEAWEED	180 M.T.	137,000
AGAR AGAR	36 M.T.	175,000
TOTAL GOVERNMENT EXPORTS		$5,090,000
PRIVATE EXPORTS		
AGAR AGAR	60 M.T.	453,424,000
LAVER	1,350 M.T.	1,050,889,000
DRIED CUTTLEFISH	4,241 M.T.	2,764,654,000
OTHER FISH		579,023,000
TOTAL PRIVATE EXPORTS		₩4,847,990,000

SOURCE: BUREAU OF COMMERCE & CUSTOMS BUREAU.

TABLE 15 - MARINE LANDINGS, REPUBLIC OF KOREA, 1946-DECEMBER 1949 (METRIC TONS)

PERIOD	FISH	SHELLFISH	SEA WEED	SEA ANIMAL	TOTAL
1946 TOTAL	236,748	21,318	24,541	23,441	306,048
1947 TOTAL	264,281	5,336	7,683	24,652	301,952
1948 TOTAL	225,917	6,423	7,812	46,440	286,592
1949					
JAN.	11,563	418	175	775	12,931
FEB.	5,250	515	109	564	6,438
MAR.	7,186	706	419	857	9,168
APR.	13,632	548	285	1,132	15,597
MAY	39,391	736	1,632	1,674	43,433
JUNE	37,280	1,090	1,030	4,087	43,487
JULY A/	22,710	227	1,200	10,235	34,372
AUG. A/	26,015	553	1,417	6,749	34,734
SEPT. B/	20,527	433	513	2,100	23,573
OCT. B/	16,000	370	78	2,583	19,031
NOV. B/	19,410	450	185	1,800	21,845
DEC. B/	20,080	576	200	1,260	22,116
TOTAL	239,044	6,622	7,243	33,816	286,725
PERCENT OF CHANGE, 1949, COMPARED WITH 1948	+5.8	+3.1	-7.3	-27.2	+0.46 C/

A/ REVISED.
B/ PRELIMINARY.
C/ RAW, UNWEIGHTED.

SOURCE: FISHERIES ADMINISTRATION SECTION, BUREAU OF FISHERIES, MINISTRY OF COMMERCE AND INDUSTRY.

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CHART I

DISTRIBUTION OF FISH IN KOREAN WATERS

Herring. Sardine. Flounder.
Rajin
Dulse. Mullet. Cod. Crab. Mackerel.
Chongjin
Ranam
Sardine. Alaska Pollack. Yellow Tail. Trout. Cod. Kelp. Alaska Pollack. Cod. Yellow Tail. Sea Slug. Trout. Crab
Sardine. Herring
Iwon
Alaska Pollack
Cuttle Fish. Sea Urchin. Flounder. Sea Slug
Alaska Pollack.
Hamhung
Cod. Mackerel. Sand Fish.
Alaska Pollack. Porgy. Sea Slug. Sardine. Alaska Pollack. Crab
Sardine. Porgy. Flounder. Oyster. Flounder.
Herring. Yellow Tail.
Wonsan
Mackerel. Porgy. Whale.
Sea Slug. Sardine.
Jangjon
Chub Mackerel. Yellow Tail.
Alaska Pollack.
Abione. Herring. Octopus. Cod Fish. Alaska Pollack. Whale. Chub Mackerel. Sardine.
Shinuiju
Hair Tail. Sea Robin. Croaker. Shrimp. Croaker. Shrimp. Porgy. Croaker. Choggy. Perch. Cod. Chub Mackerel. Croaker. Shark. Cod. Choggy. Chub Mackerel. Sting Ray. Sand Lance. Solen. Anchovy. Horse Mackerel. Mackerel. Sea Slug. Cod. Glue Sea Weed. Oyster. Scollop. Porgy.
Pyongyang
Chinnampo
Haeju
38°
38°
Japanese Jelly Plant. Shrimp. Laver. Clam. Shrimp. Cod. Croaker. Choggy.
Chunchon
Kanghung
Chumunjin
Dulse. Mackerel. Sea Slug. Hair Tail. Sardine.
Cuttle Fish.
Whale. Chub Mackerel.
SEOUL
Inchon
Shrimp. Mullet. Mullet. Mullet.
Abalone. Cod. Choggy. Porgy.
Chongju
Taejon
Chub Mackerel. Shrimp. Sting Ray. Porgy. Choggy. Shrimp. Shark. Cod. Sea Robin. Choggy. Shrimp. Croaker. Croaker.
Kunsan
Chonju
Taegu
Mukho
Dulse. Floander.
Samchok
Ulchin
Cod. Sardine. Hair Tail.
Flounder. Crab. Mackerel. Chub Mackerel. Herring. Flounder. Yellow Tail. Sardine.
Herring. Crab. Abalone. Japanese Jelly Plant. Mackerel Cod. Yellow Tail. Sardine. Hair Tail. Horse Mackerel. Whale. Mackerel. Shark. Chub Mackerel. Cod. Cod.
Pohang
Kuryongpo
Kampo
Ulsan
Chinhae
Pusan
Japanese Jelly Plant.
Flounder. Porgy. Laver. Tong-yong. Oyster. Chub Mackerel.
Yosu
Laver. Mullet. Anchovy. Shrimp. Flounder. Conger Eel. Sea Eel. Mackerel. Oyster. Sand Fish. Horse Mackerel. Shrimp. Porgy. Sea Eel. Shark. Crooker. Shrimp. Chub Mackerel. Anchovy. Horse Mackerel. Mackerel.
Mukpo
Laver.
Choggy. Porgy. Japanese Jelly Plant. Glue Sea Weed. Dulse. Porgy. Choggy. Laver. Glue Sea Weed. Dulse. Mackerel. Porgy. Shark. Hair Tail. Anchovy. Whale. Horse Mackerel. Sting Ray. Shark. Porgy. Cuttle Fish. Shark. Abalone. Sea Eel. Anchovy. Horse Mackerel. Porgy. Dulse. Japanese Jelly Plant. Top Shell. Red Porgy. Yellow Tail. Porgy. Porgy. Whole.
Kwangju
CHEJU-DO
TSU SHI MA.
I KI
YELLOW SEA
KOREA STRAITS
SEA OF JAPAN

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